

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) An acoustic inkjet printing apparatus, the acoustic inkjet printing apparatus comprising:

a printing liquid containing chamber containing a printing liquid;

a piezoelectric element including a main transducer and a sub transducer provided on at least one side of the main transducer, the piezoelectric element receiving a drive signal and generating an acoustic wave in response to receiving the drive signal;

an acoustic focusing member focusing the acoustic wave generated by the piezoelectric element near the surface of the printing liquid, thereby ejecting droplets of the printing liquid;

a droplet recovery member provided adjacent to the printing liquid containing chamber, such that the droplet recovery member is in contact with the surface of the printing liquid contained within the printing liquid containing chamber and facing toward the surface of the printing liquid,

the droplet recovery member having an opening, through which some of the ejected droplets pass, and

a droplet recovery surface facing toward the surface of the printing liquid, such that other ejected droplets that do not pass through the opening hit the droplet recovery surface and are returned to the printing liquid containing chamber; and

the acoustic inkjet printing apparatus being capable of switching between a first ejection mode in which the ejected droplets are ejected in a first direction perpendicular to the surface of the printing liquid in the printing liquid containing chamber and a second ejection mode in which the ejected droplets are ejected at an angle to the first direction by applying or not applying a drive signal to the sub transducer in accordance with image printing data, while a drive signal is being applied to the main transducer of the piezoelectric element.

2. (Currently Amended) The apparatus according to claim 1, wherein the sub transducer is a first ~~sub-transducer~~ sub transducer, the apparatus further comprising a second sub transducer, wherein the second sub transducer is provided on the main transducer opposite to the first sub transducer.

3. (Previously Presented) The apparatus according to claim 1, wherein the acoustic focusing member is either a concave lens, a spherical aberration of which has been corrected, or a Fresnel lens.

4. (Canceled)

5. (Previously Presented) The apparatus according to claim 1, wherein the droplet recovery surface is located on at least one side of the opening of the droplet recovery member.

6. (Previously Presented) The apparatus according to claim 1, wherein the droplet recovery member opening has first and second sides and the droplet recovery surface includes first and second side surfaces, the first and second side surfaces of the droplet recovery surface being provided on the first and second sides of the opening of the droplet recovery member, respectively.
7. (Previously Presented) The apparatus according to claim 1, wherein the other ejected droplets which hit the droplet recovery surface flow along the droplet recovery surface in accordance with the force of gravity so as to be recovered.
8. (Previously Presented) The apparatus according to claim 1, further comprising a drive signal generating circuit generating the drive signal to be applied to the piezoelectric element.
9. (Previously Presented) The apparatus according to claim 8, wherein the drive signal generating circuit applies the drive signal to the sub transducer in accordance with the image printing data externally applied thereto, while the drive signal is being applied to the main transducer.
10. (Original) The apparatus according to claim 1, wherein centers of the main transducer and the acoustic focusing member are shifted from each other.

11. (Previously Presented) The apparatus according to claim 1, further comprising a partition wall provided inside the droplet recovery surface, the partition wall preventing the ejected droplets returning to the printing liquid containing chamber from hitting the ejected droplet flying out of the opening.

12. (Previously Presented) The apparatus according to claim 1, wherein the acoustic focusing member is provided in a manner such that the ejected droplets are ejected in a horizontal direction, and the droplet recovery surface is provided below the opening.

13. (Previously Presented) The apparatus according to claim 1, wherein the acoustic focusing member is provided in a manner such that the ejected droplets are ejected downward in a vertical direction, and the droplet recovery surface is provided so as to face upward on at least one side of the opening.

14. (Previously Presented) The apparatus according to claim 1, wherein centers of the main transducer and the acoustic focusing member coincide with each other, and the sub transducer is provided at one side of the main transducer.

15. (Previously Presented) The apparatus according to claim 1, further comprising additional sub transducers wherein the sub transducer, and the additional sub transducers are provided on the at least one side of the main transducer.

16. (Previously Presented) The apparatus according to claim 1, wherein the acoustic focusing member is provided in such a manner that the acoustic wave is emitted diagonally relative to a direction of the ejected droplets.

17. (Original) The apparatus according to claim 1, wherein the piezoelectric element generates an ultrasound wave.

18. (Previously Presented) An acoustic inkjet printing apparatus, the acoustic inkjet printing apparatus including a plurality of printing liquid ejecting units arranged in a matrix form, the units in adjacent lines being shifted from each other, each unit comprising:

a printing liquid containing chamber containing a printing liquid;

a piezoelectric element including a main transducer and a transducer provided on at least one side of the main transducer, and the piezoelectric element receiving a drive signal and generating an ultrasound wave in response to receiving the drive signal;

an acoustic focusing member focusing the acoustic waves generated by the piezoelectric element near the surface of the printing liquid, thereby ejecting droplets of the printing liquid;

a droplet recovery member provided adjacent to the printing liquid containing chamber, such that the droplet recovery member is in contact with the surface of the printing liquid contained within the printing liquid containing chamber and facing toward the surface of the printing liquid,

the droplet recovery member having an opening, through which some of the ejected droplets pass, and

a droplet recovery surface facing toward the surface of the printing liquid, such that other ejected droplets that do not pass through the opening hit the droplet recovery surface and are returned to the printing liquid containing chamber; and

the acoustic inkjet printing apparatus being capable of switching between a first ejection mode in which the ejected droplets are ejected in a first direction perpendicular to the surface of the printing liquid in the printing liquid containing chamber and a second ejection mode in which the ejected droplets are ejected at an angle to the first direction by applying or not applying a drive signal to the sub transducer in accordance with image printing data, while a drive signal is being applied to the main transducer of the piezoelectric element.

19. (Original) The apparatus according to claim 18, wherein the piezoelectric element generates an ultrasound wave.

20. (Canceled)

21. (Canceled)